CLAIMS

1. A terminal-device authentication system characterized by comprising:

a service server for, when a service requiring device authentication is supplied to a terminal device, transmitting connection information for a first allocation server to the terminal device and receiving an authentication result from the terminal device;

the first allocation server receiving first allocation information from the terminal device and transmitting connection information for a second allocation server corresponding to the first allocation information;

the second allocation server receiving second allocation information from the terminal device and transmitting connection information for an authentication server corresponding to the second allocation information; and

the authentication server receiving authentication information from the terminal device to perform the device authentication and transmitting the authentication result to the terminal device.

2. The terminal device that utilizes the service provided by the service server in the terminal-device authentication system according to Claim 1, the terminal device being

characterized by comprising:

first receiving means for receiving from the service server the connection information for the first allocation server;

first transmitting means for connecting to the first allocation server based on the connection information received by the first receiving means to transmit the first allocation information to the first allocation server;

second receiving means for receiving the connection information for the second allocation server corresponding to the transmitted first allocation information from the first allocation server;

second transmitting means for connecting to the second allocation server based on the connection information received by the second receiving means to transmit the second allocation information to the second allocation server;

third receiving means for receiving from the second allocation server the connection information for the authentication server corresponding to the transmitted second allocation information;

authentication-information transmitting means for connecting to the authentication server based on the connection information received by the third receiving means to transmit the authentication information to the

authentication server;

authentication-result receiving means for receiving from the authentication server the authentication result based on the authentication information transmitted by the authentication-information transmitting means; and

authentication-result transmitting means for transmitting the authentication result received by the authentication-result receiving means to the service server.

3. The first allocation server that provides the connection information for the second allocation server to the terminal device in the terminal-device authentication system according to Claim 1, the first allocation server being characterized by comprising:

receiving means for connecting to the terminal device to receive the first allocation information from the terminal device; and

transmitting means for transmitting the connection information for the second allocation server corresponding to the received first allocation information to the terminal device.

4. A terminal-device authentication system characterized by comprising:

a service server for, when a service requiring device authentication is supplied to a terminal device, receiving allocation information from the terminal device, receiving

connection information for an authentication server from an allocation system based on the received allocation information, transmitting the received connection information to the terminal device, and receiving an authentication result in the authentication server from the terminal device;

the allocation system receiving the allocation information from the service server and transmitting to the service server the connection information for the authentication server corresponding to the received allocation information; and

the authentication server receiving authentication information from the terminal device to authenticate the terminal device and transmitting the authentication result of the device authentication to the terminal device.

5. The allocation system that provides the connection information for the authentication server to the service server in the terminal-device authentication system according to Claim 4, the allocation system being characterized by comprising:

allocation-information receiving means for receiving the allocation information from the service server; and

connection-information transmitting means for transmitting the connection information for the authentication server corresponding to the received

allocation information.

6. The service server that provides the service to the terminal device in the terminal-device authentication system according to Claim 4, the service server being characterized by comprising:

allocation-information receiving means for receiving the allocation information from the terminal device;

allocation-information transmitting means for transmitting the received allocation information to the allocation system;

connection-information receiving means for receiving from the allocation system the connection information for the authentication server corresponding to the transmitted allocation information; and

connection-information transmitting means for transmitting the received connection information to the terminal device.

7. The allocation system according to Claim 5,

the allocation information being characterized by including first allocation information and second allocation information, and

the allocation system being characterized by comprising:

a first allocation server receiving the first allocation information from the service server and

transmitting to the service server connection information for a second allocation server corresponding to the first allocation information; and

the second allocation server receiving the second allocation information form the service server and transmitting to the service server the connection information for the authentication server corresponding to the second allocation information.

8. The service server that receives the connection information for the authentication server from the allocation system according to Claim 7, the service server being characterized by comprising:

allocation-information receiving means for receiving the first allocation information and the second allocation information from the terminal device;

first transmitting means for connecting to the first allocation server to transmit the received first allocation information to the first allocation server;

first receiving means for receiving from the first allocation server the connection information for the second allocation server corresponding to the transmitted first allocation information;

second transmitting means for connecting to the second allocation server based on the connection information received by the first receiving means to transmit the second

allocation information to the second allocation server;

second receiving means for receiving from the second allocation server the connection information for the authentication server corresponding to the transmitted second allocation information; and

connection-information transmitting means for transmitting the connection information received by the second receiving means to the terminal device.

9. The first allocation server that provides the connection information for the second allocation server to the service server in the allocation system according to Claim 7, the first allocation server being characterized by comprising:

receiving means for receiving the first allocation information from the service server; and

transmitting means for transmitting the connection information for the second allocation server corresponding to the received first allocation information.

10. The second allocation server that provides the connection information for the authentication server to the service server in the allocation system according to Claim 7, the second allocation server being characterized by comprising:

receiving means for receiving the second allocation information from the service server; and

transmitting means for transmitting the connection information for the authentication server corresponding to the received second allocation information.

11. A method for a terminal device, adopted in a computer that utilizes the service provided by the service server in the terminal-device authentication system according to Claim 1,

the computer being characterized by comprising first receiving means, first transmitting means, second receiving means, second transmitting means, third receiving means, authentication-information transmitting means, authentication-result receiving means, and authentication-result transmitting means, and the method being characterized by comprising:

a first receiving step of receiving, by the first receiving means, the connection information for the first allocation server from the service server;

a first transmitting step of connecting to the first allocation server based on the connection information received in the first receiving step to transmit the first allocation information to the first allocation server by the first transmitting means;

a second receiving step of receiving, by the second receiving means, the connection information for the second allocation server corresponding to the transmitted first

allocation information from the first allocation server;

a second transmitting step of connecting to the second allocation server based on the connection information received in the second receiving step to transmit the second allocation information to the second allocation server by the second transmitting means;

a third receiving step of receiving, by the third receiving means, the connection information for the authentication server corresponding to the transmitted second allocation information from the second allocation server;

an authentication-information transmitting step of connecting to the authentication server based on the connection information received in the third receiving step to transmit the authentication information to the authentication server by the authentication-information transmitting means;

an authentication-result receiving step of receiving, by the authentication-result receiving means, the authentication result based on the authentication information transmitted in the authentication-information transmitting step from the authentication server; and

an authentication-result transmitting step of transmitting, by the authentication-result transmitting means, the authentication result received in the

authentication-result receiving step to the service server.

12. A first allocation method of providing the connection information for the second allocation server to the terminal device in the terminal-device authentication system according to Claim 1,

the first allocation method being adopted in a computer including receiving means and transmitting means, and the first allocation method being characterized by comprising:

a receiving step of connecting to the terminal device to receive the first allocation information from the terminal device by the receiving means; and

a transmitting step of transmitting, by the transmitting means, the connection information for the second allocation server corresponding to the received first allocation information to the terminal device.

13. An allocation method of providing the connection information for the authentication server to the service server in the terminal-device authentication system according to Claim 4,

the allocation method being adopted in a computer system including allocation-information receiving means and connection-information transmitting means, and the allocation method being characterized by comprising:

an allocation-information receiving step of receiving, by the allocation-information receiving means, the

allocation information from the service server; and

a connection-information transmitting step of transmitting, by the connection-information transmitting means, the connection information for the authentication server corresponding to the received allocation information.

14. A service providing method of providing the service to the terminal device in the terminal-device authentication system according to Claim 4,

the service providing method being adopted in a computer including allocation-information receiving means, allocation-information transmitting means, connection-information receiving means, and connection-information transmitting means, and the service providing method being characterized by comprising:

an allocation-information receiving step of receiving, by the allocation-information receiving means, the allocation information from the terminal device;

an allocation-information transmitting step of transmitting, by the allocation-information transmitting means, the received allocation information to the allocation system;

a connection-information receiving step of receiving, by the connection-information receiving means, the connection information for the authentication server corresponding to the transmitted allocation information from

the allocation system; and

a connection-information transmitting step of transmitting, by the connection-information transmitting means, the received connection information to the terminal device.

15. A method for a service server, of receiving the connection information for the authentication server from the allocation system according to Claim 7,

the method being adopted in a computer including allocation-information receiving means, first transmitting means, first receiving means, second transmitting means, second receiving means, and connection-information transmitting means, and the method being characterized by comprising:

an allocation-information receiving step of receiving, by the allocation-information receiving means, the first allocation information and the second allocation information from the terminal device;

a first transmitting step of connecting to the first allocation server to transmit the received first allocation information to the first allocation server by the first transmitting means;

a first receiving step of receiving, by the first receiving means, the connection information for the second allocation server corresponding to the transmitted first

allocation information from the first allocation server;

a second transmitting step of connecting to the second allocation server based on the connection information received in the first receiving step to transmit the second allocation information to the second allocation server by the second transmitting means;

a second receiving step of receiving, by the second receiving means, the connection information for the authentication server corresponding to the transmitted second allocation information from the second allocation server; and

a connection-information transmitting step of transmitting, by the connection-information transmitting means, the connection information received in the second receiving step to the terminal device.

16. A first allocation method of providing the connection information for the second allocation server to the service server in the allocation system according to Claim 7,

the first allocation method being adopted in a computer including receiving means and transmitting means, and the first allocation method being characterized by comprising:

a receiving step of receiving, by the receiving means, the first allocation information from the service server; and

a transmitting step of transmitting, by the

transmitting means, the connection information for the second allocation server corresponding to the received first allocation information.

17. A second allocation method of providing the connection information for the authentication server to the service server in the allocation system according to Claim 7,

the second allocation method being adopted in a computer including receiving means and transmitting means, and the second allocation method being characterized by comprising:

a receiving step of receiving, by the receiving means, the second allocation information from the service server; and

a transmitting step of transmitting, by the transmitting means, the connection information for the authentication server corresponding to the received second allocation information.

18. A terminal device program used in the terminal device including a computer that utilizes the service provided by the service server in the terminal-device authentication system according to Claim 1, the terminal device program realizing:

a first receiving function of receiving the connection information for the first allocation server from the service server;

a first transmitting function of connecting to the first allocation server based on the connection information received in the first receiving function to transmit the first allocation information to the first allocation server;

a second receiving function of receiving the connection information for the second allocation server corresponding to the transmitted first allocation information from the first allocation server;

a first transmitting function of connecting to the second allocation server based on the connection information received in the second receiving function to transmit the second allocation information to the second allocation server;

a third receiving function of receiving the connection information for the authentication server corresponding to the transmitted second allocation information from the second allocation server;

an authentication-information transmitting function of connecting to the authentication server based on the connection information received in the third receiving function to transmit the authentication information to the authentication server;

an authentication-result receiving function of receiving the authentication result based on the authentication information transmitted in the

authentication-information transmitting function from the authentication server; and

an authentication-result transmitting function of transmitting the authentication result received in the authentication-result receiving function to the service server.

19. A first allocation program used in the first allocation server that is a computer providing the connection information for the second allocation server to the terminal device in the terminal-device authentication system according to Claim 1, the first allocation program realizing:

a receiving function of connecting to the terminal device to receive the first allocation information from the terminal device; and

a transmitting function of transmitting the connection information for the second allocation server corresponding to the received first allocation information to the terminal device.

20. An allocation program used in the allocation system that is a computer providing the connection information for the authentication server to the service server in the terminal-device authentication system according to Claim 4, the allocation program realizing:

an allocation-information receiving function of

receiving the allocation information from the service server; and

a connection-information transmitting function of transmitting the connection information for the authentication server corresponding to the received allocation information.

21. A service server program used in the service server that is a computer providing the service to the terminal device in the terminal-device authentication system according to Claim 4, the service server program realizing:

an allocation-information receiving function of receiving the allocation information from the terminal device;

an allocation-information transmitting function of transmitting the received allocation information to the allocation system;

a connection-information receiving function of receiving the connection information for the authentication server corresponding to the transmitted allocation information from the allocation system; and

a connection-information transmitting function of transmitting the received connection information to the terminal device.

22. A service server program used in the service server that is a computer receiving the connection information for

the authentication server from the allocation system according to Claim 7, the service server program realizing:

an allocation-information receiving function of receiving the first allocation information and the second allocation information from the terminal device;

a first transmitting function of connecting to the first allocation server to transmit the received first allocation information to the first allocation server;

a first receiving function of receiving the connection information for the second allocation server corresponding to the transmitted first allocation information from the first allocation server;

a second transmitting function of connecting to the second allocation server based on the connection information received in the first receiving function to transmit the second allocation information to the second allocation server;

a second receiving function of receiving the connection information for the authentication server corresponding to the transmitted second allocation information from the second allocation server; and

a connection-information transmitting function of transmitting the connection information received in the second receiving function to the terminal device.

23. A first allocation program used in the first

allocation server that is a computer providing the connection information for the second allocation server to the service server in the allocation system according to Claim 7, the first allocation program realizing:

a receiving function of receiving the first allocation information from the service server; and

a transmitting function of transmitting the connection information for the second allocation server corresponding to the received first allocation information.

24. A second allocation program used in the second allocation server that is a computer providing the connection information for the authentication server to the service server in the allocation system according to Claim 7, the second allocation program realizing:

a receiving function of receiving the second allocation information from the service server; and

a transmitting function of transmitting the connection information for the authentication server corresponding to the received second allocation information.

25. A storage medium readable by a computer storing the terminal device program according to Claim 18.

26. A storage medium readable by a computer storing the first allocation program according to Claim 19.

27. A storage medium readable by a computer storing the allocation program according to Claim 20.

28. A storage medium readable by a computer storing the service server program according to Claim 21 or 22.

29. A storage medium readable by a computer storing the first allocation program according to Claim 23.

30. A storage medium readable by a computer storing the second allocation program according to Claim 24.

31. The terminal device according to Claim 2 further comprising:

connection-information storing means for storing the connection information for the authentication server received by the third receiving means; and

confirming means for confirming whether, when the connection information for the first allocation server is received from the service server, the connection information is stored in the connection-information storing means,

the terminal device being characterized in that, when the confirming means confirms that the connection information is stored, the authentication-information transmitting means connects to the authentication server based on the stored connection information to transmit the authentication information.

32. The terminal device according to Claim 31, characterized in that, when the authentication-information transmitting means is not able to connect to the authentication server based on the connection information

stored in the connection-information storing means, the authentication-information transmitting means uses the connection information for the authentication server, acquired by using the first transmitting means, the second receiving means, the second transmitting means, and the third receiving means based on the connection information received by the first receiving means, to connect to the authentication server and transmits the authentication information, and

in that the connection-information storing means uses the acquired connection information for the authentication server to update the stored connection information.